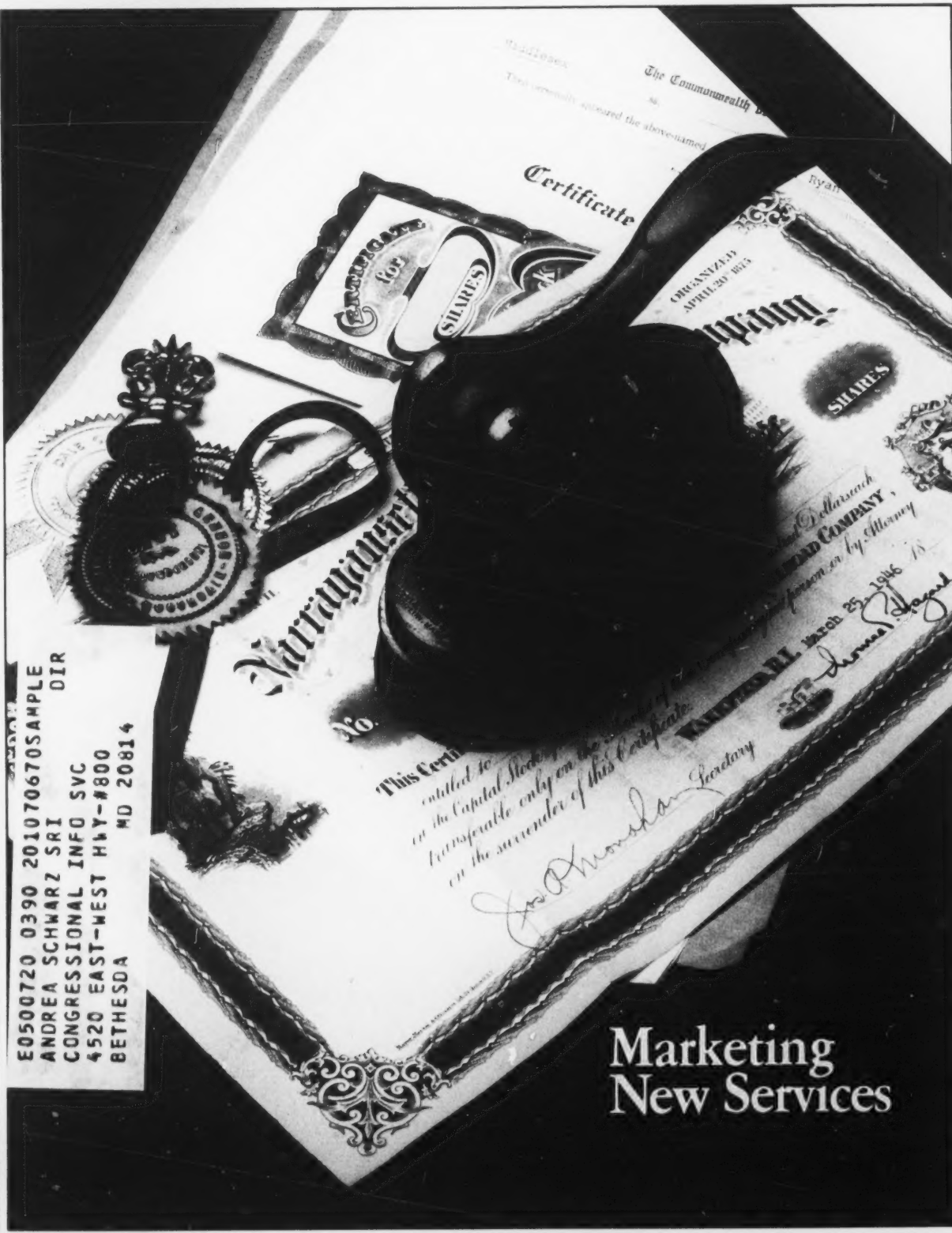


11/14/83
C2425-2

TRUSTS & ESTATES

ESTATE PLANNING & ADMINISTRATION

A Publication of Communication Channels, Inc. NOVEMBER 1983



E0500720 0390 201070670SAMPLE
ANDREA SCHWARZ SRI
CONGRESSIONAL INFO SVC
4520 EAST-WEST HWY-#800
BETHESDA MD 20814

Marketing
New Services

TRUSTS & ESTATES.

Volume 122, No. 11

Estate Planning and Administration Since 1904

NOVEMBER 1983

- 6 / Sen. John Heinz Discusses
The Current World Debt**
The crucial question is whether any country is facing a problem of liquidity or genuine insolvency
- 10 / A Loan Officer's Perspective**
An interview with S.C. Gwynne concerning the international debt
- 17 / Reinterpreting Glass-Steagall:
A Bank's Move into Brokerage**
For The Citizens and Southern National Bank, discount brokerage has been a profitable venture
*Kenneth J. Phelps
Iris R. Spedale*
- 26 / Attorney-Trust Officer Liaison**
Conference helps harmonize working relationships in a competitive environment
*Robert D.W. Landon II
Gregory J. Porges*
- 30 / Advances in Automation for
Trust Real Estate Management**
Trust real estate managers have felt left out from advances in computer technology
Shirley Herrick
- 33 / The Intermarket Trading System: Cornerstone
Of the National Securities Market**
The market system will continue to evolve
*Albert J. Fredman
John R. Nichols
Randal J. Moore*
- 40 / Successfully Recruiting
Trust New Business Officers**
Key qualities may vary from those sought in administrators
C. Franklin Furr
- 43 / Marital-Property Settlements:
The Implications of Cook**
How far has the Tax Court gone in overturning *Davis*?
*Mitchell M. Gans
Jonathan G. Blattmachr*
- 52 / Questions and Answers**
On Estate Planning and Administration
Roy M. Adams
- 56 / Personal Financial Planning: A New Market
May Hold Profit for Smaller Banks**
An outside planning firm may establish greater objectivity
Pierre E. Richards



COVER

Banking deregulation presents opportunities for trust departments to offer new products and services besides the traditional ones of executing wills and managing stocks and bonds. Foremost among these is discount brokerage, which in certain cases may be profitable as well as used for marketing purposes. Cover photo courtesy of State Street Bank & Trust Co., Boston, Mass., Personal Trust Division and taken by Bruno Joachim Studio.

DEPARTMENTS

- 4 Commentary
- 61 Philanthropy & Estate Planning
- 63 Law & Life Insurance
- 65 Fiduciary Decisions
- 66 Personnel

The Intermarket Trading System: Cornerstone of the National Securities Market

*Automated processing delivers
swift trades at optimal prices*

By **ALBERT J. FREDMAN**
JOHN R. NICHOLS
and
RANDAL J. MOORE
California State University
Fullerton, Calif.

The U. S. Congress mandated, in the Securities Acts Amendments of 1975 (the "1975 Acts"), the elimination of all barriers to competition in the corporate equity markets recognizing that "the securities markets are an important national asset which must be preserved and strengthened." The Securities and Exchange Commission (SEC) was to supervise the establishment of a National Market System (NMS) to provide a more fair, orderly and efficient market to replace our existing fragmented securities markets.¹

In implementing the 1975 Acts, the SEC has allowed the NMS to evolve by letting the securities industry innovate in conformity with the objectives of the NMS. The industry has responded by utilizing many of the latest data processing and communications techniques. Considerable progress was made with the implementation of fully negotiated commissions, the consolidated tape, the composite quotation system, and the national clearance and settlement system.

Cincinnati Exchange

In 1978 two major competitive market systems emerged: the Cincinnati Stock Exchange (CSE) "Experiment" and the Intermarket Trading System

(ITS). The former consists of a closed network, all-electronic exchange. It had difficulties in gaining converts mainly because of the threat of loss of floor positions, which a fully automated exchange, with automated executions, would entail. Additionally, there was fear that initial costs of new equipment and possible lack of complete technology might bring disaster—as did the failure of the New York Stock Exchange's (NYSE's) Block Automation System, which was terminated in 1973.

The time has not yet come to abandon our exchanges, which have served us well for so many years, for the "black box." The key element of human judgment is still necessary on our stock exchange trading floors. Looking to the foreseeable future, the industry's resources should be directed toward developing effective competition between our existing market centers. To this end the ITS was developed as a communications network designed to stimulate competition in dually traded securities among the specialists at the various exchanges. It has become the cornerstone of the NMS.

In September 1979 the SEC indicated that continued system enhancements would be necessary if the ITS were to become a permanent part of the NMS.

At the minimum, ITS participants were to (1) reduce response times; (2) develop a linkage between the ITS and the CSE; and (3) implement a linkage between the ITS and the over-the-counter (OTC) market makers regulated by the National Association of Securities Dealers (NASD). Since this time, the CSE and NASD have become ITS participants, and the operational efficiency and capacity levels of the ITS have continued to increase.

The authors' objective is to present a concise overview of the linkage between the stock markets today and the significant issues that need to be resolved in order to make the linkage more complete. A portion of this article is based on a survey that we have made of key executives at the stock exchanges, the NASD and the SEC, as well as other leading authorities in the industry. As it is the focal point of the system, we will examine the ITS first.

Intermarket Trading System²

"The NMS should be a system where orders entered in any marketplace can be exposed and executed in any other marketplace at the best available price by means of high-speed communications technology and with fully automated comparison and clearing capabil-

ities," according to Roger C. Wilson, vice president, Merrill Lynch.¹ As a means to this end, the ITS emerged.

An electronic linkage among market centers, the ITS was developed by John J. Phelan Jr., now president of the NYSE, to increase competition. Trading commenced on April 17, 1978, in 11 dually traded stocks, with the New York and Philadelphia stock exchanges as the first participants. The ITS, which now links eight market centers (including seven stock exchanges), has facilitated a greater awareness of and access to markets outside New York. (Significant facts pertaining to the ITS since its 1978 debut are outlined in Chart I.)

The ITS facilitates the routing of messages between participating markets. Since the ITS itself does not provide the market center quotes, it is used on the basis of bid, ask and size data displayed by a composite quote system. If a broker or dealer at one market ascertains that another market offers a better price on an ITS stock, he would enter a "commitment to trade" into a computer terminal, thereby transmitting the order to the destination market in seconds.

The commitment to trade obligates its sender for a fixed time, typically one minute. At the destination market the broker or dealer who receives the commitment could either accept or cancel it, let it expire or respond with an administrative message. If allowed to expire, it would automatically be canceled. A common reason for cancellation would

be an attempt by the sender to execute a trade at a better price than that indicated by the displayed quote — i.e., to "reach-through" the quote. The overall ITS cancellation rate is now about 16 percent, down from 28 percent in December 1978.

By providing equitable access to and greater communication between markets, the ITS enables customers to receive the benefits of better prices and market makers to compete more fairly. In 1981 the opportunity to obtain a better price via the ITS resulted in savings to investors of some \$40 million according to NYSE estimates.⁴

As of the end of February 1983, 1,055 ITS eligible issues existed, compared to 966 one year earlier. (See Chart II for statistics on the growth of ITS.) The average size of ITS trades has recently been about 700 shares. The ITS is being used more, and ITS volume has greatly increased relative to composite volume in the ITS stocks. For all market centers, ITS trades relative to composite trades in ITS stocks increased from 4.4 percent in the fourth quarter of 1978 to 8.2 percent in the fourth quarter of 1981; whereas ITS volume relative to composite share volume in ITS stocks increased from 3.4 percent to 4.8 percent over the same period.

During 1982 ITS volume totaled 826 million shares, 52 percent above 1981 volume. (See Chart II.) Average daily volume was 3.3 million shares in 1982, versus 2.1 million in 1981. The NYSE has participated in about nine-tenths of

all ITS trades, most often as a receiving market; whereas the Boston Stock Exchange (BSE), the Midwest Stock Exchange (MSE) and the Philadelphia Stock Exchange (PHLX) accept fewer ITS trades than they initiate, as seen in Chart III. The Pacific Stock Exchange (PSE) trading patterns are the most balanced. The American Stock Exchange (AMEX) has the smallest participation rate of the exchanges because it lists relatively few ITS-traded stocks.

The NYSE accounts for the greatest portion of ITS volume, as it is the primary market for most of these stocks. However, ITS volume represents a much higher fraction of consolidated volume in ITS stocks on the regional exchanges. During February 1983, for example, ITS volume represented 32.1 percent and 24.4 percent of all volume in ITS stocks on the BSE and PSE, respectively. The corresponding figure for the NYSE was only 2.5 percent.

ITS operational efficiency continues to improve. For instance, using optical-scanner technology, the NYSE developed mark-sense "commitment" and "turn-around" cards. Both cards replace keyboard terminals and exchange employee operators. The other participating exchanges have also implemented improvements. The various system enhancements have helped reduce response times. The overall response time is about 37 seconds (down from 50 seconds in December 1978). Moreover, greater trading activity apparently does not adversely affect response times.

Execution quality has also improved. The ITS offers an opportunity for participants to secure more favorable prices than those reflected in the published quotes. If supply-and-demand interests are not fully reflected in the displayed quote, the ITS may be used in an effort to reach through. Participants have, in fact, used the ITS to reach better prices than those published, and about one out of three attempts is successful. The SEC is concerned about this fact, however, and favors full and accurate disclosure of trading interests in each market to maximize competitive opportunities and pricing efficiency.

A "trade-through" occurs if an execution takes place in one ITS market when another offers a better price. Less than 1 percent of the trades involving ITS stocks are trade-throughs, and the level of such trades has shown a modest decline since the adoption of trade-through rules by each ITS participant in early 1981.

The SEC has studied the impact of the ITS on market quality by examining TRUSTS & ESTATES / NOVEMBER 1983

CHART I

EVOLUTION OF THE ITS

March 9, 1979:	Five exchanges jointly filed an ITS Plan with the SEC
April 17, 1978:	With the linkage of the NYSE and PHLX, ITS trading commenced in 11 dually traded stocks
August 7, 1978:	The AMEX, BSE, MSE and PSE were all linked to the ITS by this time
August 11, 1978:	An "ITS Extension Order" was issued by the SEC extending its approval of the ITS for an additional year
September 21, 1979:	The SEC extended the participants' authority to operate the ITS until January 31, 1983
February 11, 1981:	The CSE became an ITS participant
April 20, 1981:	"Trade-through" rules of the ITS participants became effective
May 17, 1982:	Linkage between the ITS and the NASD's CAES commenced. Eight market centers are now linked together
October 7, 1982:	The most active day in shares traded on the ITS—6,862,500 were traded
November 3, 1982:	The most active day in terms of total ITS trades—8,579 took place
December 29, 1982:	The ITS participants requested that the SEC terminate the status of the ITS as an experimental system by extending its duration indefinitely
January 27, 1983:	The SEC issued an order authorizing the participants to operate the ITS on an indefinite basis

(1) the price spread (the difference between the bid and ask); (2) the quote size (the number of shares available at the bid and ask); and (3) the price volatility of ITS stocks. Higher quality would be associated with smaller spreads, lower volatility and larger quote sizes. The SEC's statistical analyses indicated that the ITS has not significantly affected the bid/ask spread (which was narrow to begin with for ITS stocks), and there does not appear to be a significant difference between the price volatility of ITS and non-ITS stocks. However, ITS stocks have a higher average quote size. Therefore, it appears from the SEC's analysis that ITS participants may be competing for order flow primarily on the basis of quote size in ITS stocks.

The ITS has been a success. According to John P. Foynes, managing director—national market relations, NYSE, "The dual role of ITS—preserving competition and providing a mechanism for better prices—should be clearly understood. ITS is not an order routing system. Thus while the volume of trading through ITS itself has increased steadily and substantially, it does not 'handle' the bulk of total volume in the linkage issues. It was never intended to do so, nor is it in any way necessary for its success."

What is the future outlook for the growth and further refinement of the ITS? Mr. Foynes comments: "We expect that more stocks will be added to ITS and that ITS volume will grow as overall volume grows. As a further refinement of ITS, the participants are currently developing what is being referred to as ITS II (at a cost of about \$1 million), which will increase the volume-handling capacity of the system most especially at peak load levels. It . . . will be completed in November 1983."

Kenneth I. Rosenblum, executive vice president and general counsel, MSE, comments that the "ITS is at a threshold point in its development. More meaningful communication and activity as well as trust between markets will rest upon further developments in areas such as the firm-quote rule and real-time surveillance systems tied in with audit trails of trading activity."

ITS/Cincinnati Exchange Link

The National Securities Trading System (NSTS) is used exclusively by the Cincinnati Stock Exchange (CSE). The NSTS is a fully automated electronic trading system that permits CSE members to enter orders without being pres-

ent on an exchange floor.⁵ Orders entered are stored, queued and executed according to price and time priorities.

The "Cincinnati Experiment" was originally a nine-month pilot program approved by the SEC on April 18, 1978. The system continued on a pilot basis until December 9, 1982, when the SEC terminated the status of NSTS as an experimental program and extended its duration for an indefinite period. It also removed the 200-issue limit on the number of issues that could be traded.⁶ Some 117 issues are now traded in the system, and the number is being gradually increased.

The CSE became a participant in the ITS in February 1981. Prior to this time, CSE members had problems in sending orders to other markets, and ITS participants could not direct their orders to the CSE. A manual interface

now exists between the ITS and the NSTS.

While trading volume at the CSE has not been substantial, NSTS has demonstrated that it is an effective mechanism for executing orders and attracting order flow. (See Chart III.) In fact, since the NSTS interface with the ITS, the CSE has been a net receiver of ITS share volume. During February 1983 ITS volume represented 46 percent of all volume in ITS stocks on the CSE. By gaining indefinite approval of the NSTS, the CSE should be able to attract new participants and implement further system enhancements.

ITS/Over-the-Counter Linkage

Gordon S. Macklin, president, NASD, states, "The market I see in the future would involve both the NYSE and an ever-expanding NASDAQ Sys-

CHART II

INDICATORS OF ITS GROWTH

	Eligible Stocks (Year-End)	ITS Volume/ Trades (000s)	ITS Volume/ Shares (000s)
1978	300	68	42,304
1979	688	355	209,376
1980	884	726	396,151
1981	947	926	542,601
1982	1,039	1,188	825,813

Sources: U.S. Securities and Exchange Commission, *A Monitoring Report on the Operation of the Intermarket Trading System*, prepared by the Directorate of Economic and Policy Analysis, February 1981; U.S. Securities and Exchange Commission, *A Report on the Operation of the Intermarket Trading System: 1978-1981*, prepared by the Directorate of Economic and Policy Analysis, June 1982; and ITS Operating Committee, *ITS Monthly Highlights*, prepared by Business Research Division, Statistical Services Department, February 1983.

CHART III

DISTRIBUTION OF ITS EXECUTIONS*

	Receiving Market	Originating Market	Participation Rate**
NYSE	51.6%	36.4%	44.0%
PSE	20.8	20.7	20.7
MSE	13.9	21.8	17.8
PHLX	3.5	11.3	7.4
BSE	4.3	5.7	5.0
AMEX	2.0	1.8	1.9
CSE	3.1	2.0	2.6
NASD	0.9	0.2	0.6
	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>

*February 1983

**Total trades originated plus total trades received

Source: ITS Operating Committee, *ITS Monthly Highlights*, prepared by Business Research Division, Statistical Services Department, February 1983

tem which will accommodate those companies that prefer to have their markets made by a network of competing professionals located throughout the country and tied together by state-of-the-art computers and communications facilities. The competition between these two types of markets should inspire both to a series of continuing improvements which would work to the benefit of investors and listed companies."

One of the greatest challenges faced in developing the NMS has been to effectively link the exchange and OTC markets. These two markets operate under different trading and pricing characteristics, which makes linking them difficult. The fundamental difference between the two is that the exchange market allows investor to meet investor through broker/agents; whereas, in the OTC market, investors trade through dealers and rarely meet.

On May 17, 1982, by SEC order, a six-month pilot program linking off-board market makers to the ITS via the NASD's Computer Assisted Execution System (CAES) began. The program is confined to the thirty most active stocks among those exempt from exchange off-board trading restrictions (in particular NYSE Rule 390) under the experimental SEC Rule 19c-3. The thirty stocks are drawn from the list of some 200 19c-3 issues that have since April 27, 1979, moved from the OTC market to an exchange.⁷

Rule 19c-3 was adopted by the SEC for several reasons: first, to provide competition between the OTC and exchange markets, which should ultimately benefit the investor; second, to provide the opportunity for cost savings to brokers, dealers and investors by possibly being able to effect transactions in-house; third, to limit the expansion of anti-competitive off-board trading restrictions; and finally, to provide an actual experience with concurrent OTC and exchange trading.

However, the ITS/CAES link has not worked out well, according to Mr. Macklin: "The SEC has limited the use of the linkage to trading in only 30 19c-3 companies, and most off-board professionals have found that trying to compete with the entrenched NYSE specialist with his many advantages, such as the limit order book and member directed order flow, has not been profitable." For these same reasons, Merrill Lynch recently discontinued all 19c-3 market-making.⁸

Mr. Rosenblum of the MSE is not in favor of the linkage, either. He comments that "... the SEC is forcing a

marriage before taking blood tests and one which no one may really want. I believe they were misguided by requiring the 19c-3 'experiment' and the interface without concerning themselves with the basic differences between the markets on exchanges and OTC and between some of the activities that an OTC market-maker, but not an exchange specialist, can engage in."

In order for the ITS/CAES link to be consistent with the objectives of the NMS, the link should preserve the opportunity for the orders to meet and interact within the entire NMS. The most common criticism of Rule 19c-3 is that the SEC ordered the initiation of the ITS/CAES linkage without any rule to safeguard against "internalization," or broker/dealers' withholding customers' orders from interacting in the marketplace and executing them in their offices. Internalization may lead to a proliferation of fragmented markets.⁹ Concern has been voiced, principally by the NYSE, that internalized orders might not be executed at the best possible price. Thus, there exists the possibility of "over-reaching," or executing the trade at a price inferior to the market but profitable to the house.

Jim Gallagher, president of the PSE, is opposed to internalization as are individuals at the other exchanges. According to Mr. Gallagher, "... internalization is wrong, because the whole purpose of building the NMS mandated by Congress is for the orders of investors to interact with each other, as much as possible, within the system." Barring protective devices, internalization would generally lead to a decline in competition. The SEC is asking for public comment on the securities industry's proposals to regulate it by July 23, 1983.

Proposed order exposure rules, SEC Rules 11A-1 (A) and (B), would require that certain orders on stocks being traded through ITS/CAES be exposed to other market centers through the ITS/CAES interface before being executed in the market center to which the order was originally sent. Before OTC market-makers do an in-house trade, the customer's order must be publicly exposed to the market at a price one-eighth of a point more favorable than the market price for 30 seconds. If neither the OTC nor the exchange will accept the published quote, then the original broker must execute the trade at the price that existed when the quote was entered.¹⁰ The intent of such rules would be to improve intermarket competition and best execution.

Widespread disagreement exists as to

whether order exposure rules of the type proposed would actually foster the development of the NMS. Those opposed hold that such rules are cumbersome, costly, impractical, unnecessary and unfair. Mr. Macklin feels that "... the proposed anti-internalization rule is truly unnecessary and dangerously anti-competitive." Mr. Wilson of Merrill Lynch adds that such rules "... will inhibit market-making and lead to less liquid markets." Another problem is that they could severely impair the functioning of the useful automated order routing systems run by the regional exchanges, which will be examined in the next section.

Both the ITS/CAES linkage and the related question of whether an order exposure rule is necessary (and if so, what its specific requirements should be and how universally it should be applied) are major bottlenecks to further progress toward the ultimate NMS. The issues are complex, and there appears to be no simple solution that would be acceptable to all concerned.

Small-Order Routing Systems

Just as competition among different market centers has fostered the development and refinement of the ITS, it has also provided the impetus for different exchanges to develop ways to handle more effectively and economically the routing and execution of small orders using electronics. These small order systems should play a major role in our linked market centers.

By way of background, about two-thirds of all customer orders that come to the exchange floors are "small"—generally this means 500 or fewer shares. If the floor broker were to pick up all orders at the member firms' booths and carry them to the posts for execution or entry into the specialist's book, the costs would be considerable, due to the manual handling. Designated Order Turnaround (DOT) was introduced by the NYSE in 1976 to reduce dependence on floor brokers for small, routine orders and thereby cut costs. It now accommodates orders up to 599 shares.

With DOT, member firms route market and limit orders by computer directly to the specialist's post. When an order is received, the specialist represents it in the crowd at the trading post. When it is executed, timely confirmation is given. DOT, like other comparable small order systems, bypasses the floor broker. DOT has the capacity to store limit orders in an electronic file. DOT orders now represent about 2.6

TRUSTS & ESTATES / NOVEMBER 1983

million shares daily and participate in 44 percent of all trades. The AMEX offers a competitive system named Post Execution Report (PER).

The PSE and PHLX systems (SCOREX and PACE, respectively) not only route orders, like DOT and PER do, but also execute them automatically based on a derivative pricing model. (DOT does not provide automatic execution, since the NYSE felt that automatic execution would not permit brokers to assess the market on-the-spot, which could affect the customer adversely.)

The PSE's participation in the ITS served as a major consideration in the development of its SCOREX system, which was introduced in 1979 as the predecessor of its earlier system, COMEX—the first small-order routing system. SCOREX has become the first automated communication, order routing and execution system to recognize quotes from all ITS markets. It handles orders up to 300 shares. Within 30 seconds a market order is received, displayed and executed at the best available price based upon quotes from all ITS markets. SCOREX automatically protects market orders against the composite quote and provides first-print protection on limit orders."

Another small order handling innovation assists the specialists at the market opening, normally the busiest time of the trading day. The Opening Automated Report Service (OARS) has been developed by the NYSE to handle orders up to 1,099 shares, which are received at the exchange prior to the market opening. In an electronic file, OARS stores and tabulates these orders, pairs the buy/sell orders, and calculates any imbalances. This information assists the specialist in establishing a fair opening price. OARS has been expanded to handle limit as well as market orders.

Conclusion

The NMS objectives have been largely met through the ITS. Competition has been greatly strengthened by the linkage, and the ITS volume handled by regional exchanges has increased markedly. ITS response times and cancellation rates have been significantly reduced. And there have been noteworthy improvements in market quality. The ITS has fostered the development of a larger quote size on the part of competing market-makers. Further contributing to our progress, small order routing systems have been developed and upgraded.

Today, the average investor need not

be concerned that he is at a disadvantage in the execution of his order by being a possible victim of an archaic, monopolistic specialist system on the NYSE or elsewhere. The fact that there are over 1,000 ITS issues, which account for most dually traded exchange stocks, lessens that possibility. Furthermore, these technological improvements have come to pass in times of unprecedented stock market volume. Thanks in part to the ITS, which fosters greater depth and liquidity in listed stocks, we can now handle 150-million-share days.

Yet, there are remaining problems due to SEC Rule 19c-3 and the ITS/CAES market linkage. Major differences exist between the exchange auction markets and the OTC dealer markets, and, therefore, a workable linkage between the two will be difficult to achieve. Although we are opposed to internalization, we feel that the proposed order exposure rules may do more harm than good.

Further, an efficient system for the handling of large block trades through the ITS and also a limit order system with effective rules need to be developed. We have the technology. All we need is unanimity on how to proceed and the budget for its accomplishment.

Only time, however, can answer the question, "What is the ultimate NMS?" We agree with former SEC chairman Harold M. Williams who holds that "There is no such thing as the 'ultimate NMS.' The nature of the market system will continue to evolve and change as it has over the years with competition, experience, developments in technology, availability of new, creative financial instruments, the internationalization of markets and customers. . . ."

FOOTNOTES

1. For a background discussion of securities market problems, developments and innovations, see Albert J. Fredman and John R. Nichols, "Innovation and Change, in the Nation's Securities Markets," TRUSTS & ESTATES, July 1979, pp. 14-16 and 18-22.

2. This section draws heavily upon the following materials: U.S. Securities and Exchange Commission, *A Report on the Operation of the Intermarket Trading System: 1978-1981*, prepared by the Directorate of Economic and Policy Analysis, June 1982; U.S. Securities and Exchange Commission, *A Monitoring Report on the Operation of the Intermarket Trading System*, prepared by the Directorate of Economic and Policy Analysis, February 1981; U.S. Securities and Exchange Commission, Securities Exchange Act of 1934 Release No. 19456, January 27, 1983; ITS Operating Committee, *ITS Statistical Highlights-1982*; and ITS Operating Committee, *ITS Monthly Highlights*, prepared by Business Research Division, Statistical Services Department, February 1983.

3. All direct quotes are based upon responses of the named individual to the authors' questionnaire survey.

4. New York Stock Exchange, *The Report of the Quality of Markets Committee to the Board of Directors-1981*, March 4, 1982, p. 10.

5. For a background discussion on the Cincinnati (all-electronic) Stock Exchange, see Morris Mendelson and Junius W. Peake, "The ABCs of Trading on the National Market System," *Financial Analysts Journal*, September/October 1979, pp. 31-34 and 37-42.

6. U.S. Securities and Exchange Commission, Securities Exchange Act of 1934 Release No. 19315, December 9, 1982.

7. Specifically, Rule 19c-3 precludes off-board trading restrictions from applying, with certain exceptions, to any reported security (1) which was not traded on an exchange on April 26, 1979, or (2) which was traded on an exchange on April 26, 1979, but which ceases to be traded on an exchange for any period of time thereafter.

8. Tim Carrington, "Merrill to End Its Off-Board Market-Making," *The Wall Street Journal*, March 22, 1983, p. 6.

9. Kalman J. Cohen et al., "An Analysis of the Economic Justification for Consolidation in a Secondary Security Market," *Journal of Banking and Finance*, March 1982, pp. 117-136.

10. New York Stock Exchange, *New York Stock Exchange Comments on the Need for an Order Exposure Rule*, November 1982.

11. Pacific Stock Exchange, *SCOREX* (phamphlet), prepared by the PSE Marketing Department, January 1980.

The authors thank Charles Forman (committee chairman ITS Operating Committee and senior vice president equities division) and Jim Gallagher (president) of the Pacific Stock Exchange for their valuable assistance. We also thank the many individuals who responded to our questionnaire survey and/or provided their documents.

Albert J. Fredman is a professor of finance in the School of Business Administration and Economics at California State University, Fullerton. He holds a Ph.D. in business administration (with a specialty in finance) and an M.B.A. from the University of California, Los Angeles, and a B.S., with honors, in accounting from San Diego State University. His teaching and research interests are in the areas of securities investments, equity options, and financial management.

John R. Nichols is a professor of finance, emeritus, in the School of Business Administration and Economics at California State University, Fullerton, where he taught courses in securities investments and portfolio management. He obtained a B.B.A. from Baldwin-Wallace College, an M.A. in Economics and a Ph.D. from The Ohio State University. His research interests are in the areas of securities analysis, portfolio management and financial management.

Randal J. Moore is a freelance financial writer based in Santa Ana, California. Formerly an investment advisor at Wells Fargo Bank, he was an honors student in finance at California State University, Fullerton. Mr. Moore's research interests are in the area of securities investments and equity options.